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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/654,087 | 09/01/2000 | Kazuyuki Fukuda | 500.39005X00 | 5932 |

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EXAMINER

SEDIGHIAN, REZA

| ART UNIT | PAPER NUMBER |
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2633

DATE MAILED: 07/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary

Application No.

09/654,087

Applicant(s)

FUKUDA ET AL.

Examiner

M. R. Sedighian

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa Toru et al. (Japanese Patent No: 11-295560).

Regarding claims 1 and 5-6, Nishikawa teaches an optical transmitter module (fig. 1) which has an optical semiconductor element (103, fig. 1), an optical fiber (105a, fig. 1) optically coupled to said optical semiconductor element (103, fig. 1), an inline optical isolator (112, fig. 1) provided for said optical fiber (105a, fig. 1), and a package case (100, fig. 1) containing said optical semiconductor element (103, fig. 1) and said optical fiber (105a, fig. 1), comprising: a substrate member (the substrate underneath element 102) with one end of said optical fiber on the light incident side fixed thereon to be optically coupled to said optical semiconductor element (one end of optical fiber 105a is fixed to the semiconductor laser element 103); a thermoelectric cooler (101, fig. 1) with said substrate member joined to a top surface thereof (the substrate member is at the top of cooler 101); and a pipe-like support member (111, fig. 1) projecting from the side face of said package case (100, fig. 1) for fixing said optical isolator (optical isolator 112 is fixed to support member 111).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa Toru et al. (Japanese Patent No: 11-295560) in view of Timmermann (US Patent No: 4,137,060).

Regarding claim 2, Nishikawa differs from the claimed invention in that Nishikawa does not disclose the end of said optical fiber is spherical or conical in shape. Timmermann teaches an optical fiber (1, fig. 1) with spherical end (col. 2, lines 29-31 and 4, fig. 1). Therefore, it would have been obvious to an artisan at the time of invention to incorporate an optical fiber having an spherical end, as it is taught by Timmermann, for the optical fiber in the transmitting module of Nishikawa in order to increase the light coupling between the fiber and the emitted light.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa Toru et al. (Japanese Patent No: 11-295560) in view of Shibukawa et al. (US Patent No: 5,049,429), or in view of Lemaire et al. (US patent No: 5,478,371).

Regarding claim 3, Nishikawa differs from the claimed invention in that Nishikawa does not disclose the length of said optical fiber is 15 to 25 mm. Shibukawa teaches an optical fiber of length 15 mm (col. 6, lines 60-62). Lemaire teaches an optical fiber of length 25 mm (col. 4, line 66). Therefore, it would have been obvious to an artisan at the time of invention to incorporate an optical fiber of length 15 to 25 mm, as it is taught by Shibukawa or Lemaire, for the optical fiber in the transmitting module of Nishikawa in order to provide an optical fiber of sufficient length.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa Toru et al. (Japanese Patent No: 11-295560) in view of Eales et al. (US patent No: 4,615,031).

Regarding claim 4, Nishikawa differs from the claimed invention in that Nishikawa does not disclose optical isolator and the support member are fixed to each other through laser welding or brazing. Eales teaches a method of laser welding (col. 1, lines 52-54) or brazing (col. 3, lines 12-14) for positioning optical elements. Therefore, it would have been obvious to an artisan at the time of invention to incorporate a method of laser welding, or brazing, as it is taught by Eales, to fix the optical isolator and the support member in the transmitting module of Nishikawa to provide a fixing method in which there can be minimal relaxation and hence relative movement of the components.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa Toru et al. (Japanese Patent No: 11-295560) in view of Keil et al. (US patent No: 4,767,171).

Regarding claim 7, Nishikawa differs from the claimed invention in that Nishikawa does not disclose the signal light passing through the optical isolator is a collimated light or a converged light. However, it is well known in the field of optical communication to incorporate a lens along the optical path or along the optical fiber to converge the light for further transmission. Keil teaches an optical lenses (KL1, KL2, fig. 1) along the transmission path (col. 3, lines 60-64, col. 4, lines 35-45, col. 5, lines 36-40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate optical lenses such as the ones of Keil along the optical transmission path, or in the optical isolator of transmitting module of Nishikawa to converge the light for further transmission.

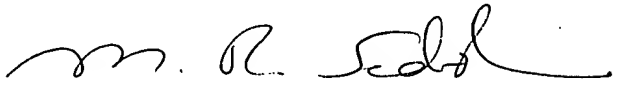
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063.

The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


M.R. SEDI GHIAN
Patent Examiner
Art Unit: 2633